

REMARKS

Applicant has amended his claims herein to better clarify the invention. Claims 1, 11, and 21, are amended herein to recite a data storage and retrieval system comprising a plurality of host computers wherein each host computer comprises a storage management program, a first operating system, and a second operating system. Support can be found in the Specification at FIGs. 2A and 2B which recite host computers 210, 220, and 230, and on Page 4 at Line 18 through Page 5 at Line 8, and on Page 5 at Line 14 through Page 6 at Line 2, and on Page 6 at Lines 8-17.

Claims 1, 11, and 21, are further amended herein to recite that each of the plurality of host computers are owned by different host computer owners. Support can be found in the Specification on Page 14 at Lines 1-9.

No new matter has been entered. Reexamination and reconsideration of the application, as amended, is respectfully requested.

Claims 1-7, 10-17, and 20-26, stand rejected under 35 U.S.C. § 103(a) over Shinohara et al. (U.S. Pat. No. 7,103,665) in view of Fuller et al. et al (U.S. Pub. No. 2003/0055972).

Claims 8, 9, 18, and 19, stand rejected under 35 U.S.C. § 103(a) over Shinohara et al. (U.S. Pat. No. 7,103,665) in view of Fuller et al. et al and Burton et al. (U.S. Pat. No. 6,633,962).

In *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007), the Supreme Court held that the obviousness analysis of *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), controls an obviousness inquiry. The *Graham* obviousness factors include “the scope and content of the prior art” and the

“differences between the prior art and the claims”. *KSR*, 127 S. Ct. at 1734 (quoting *Graham*, 383 U.S. at 17-18).

Shinohara et al. teach a resources management program on a computer network having a plurality of storage systems of different types, where that program converts a resources allocation request into a setup request appropriate to the network or storage system. Col. 2 at Lines 10-15. Shinohara et al. nowhere teach a plurality of host computers in communication with an information storage and retrieval system, where each of the host computers comprises a storage management program, a first operating system, and a second operating system, as recited by Applicants' claims 1, 11, and 21, as amended herein. Furthermore, Shinohara et al. nowhere teach that each of the plurality of host computers are owned by different host computer owners as recited by Applicants' claims 1, 11, and 21, as amended herein. In addition, Shinohara et al. nowhere teach a method comprising the steps of, *inter alia*, providing a plurality of logical volumes, forming by a storage system owner (N) logical volume groups, assigning one or more of the plurality of logical volumes to the (i)th logical volume group, where (i) is greater than or equal to 1 and less than or equal to (N), where any logical volumes not assigned to any of the (N) logical volume groups remain unassigned, as recited in Applicants' claims 1, 11, and 21, as amended herein. The Examiner acknowledges that “Shinohara fails to teach leaving logical volumes unassigned from the logical volume groups.” August 9, 2007 Office Action at Page 4.

Fuller et al. and Burton et al., singly and in combination, fail to cure the deficiencies of Shinohara et al. Neither Fuller et al., nor Burton et al., singly or in combination, teach a plurality of host computers in communication with an information storage and retrieval system,

where each of the host computers comprises a storage management program, a first operating system, and a second operating system, as recited by Applicants' claims 1, 11, and 21, as amended herein. Furthermore, neither Fuller et al., nor Burton et al., singly or in combination, teach that each of the plurality of host computers are owned by different host computer owners, as recited by Applicants' claims 1, 11, and 21, as amended herein. Moreover, neither Fuller et al., nor Burton et al., singly or in combination, teach a method comprising the steps of, *inter alia*, providing a plurality of logical volumes, forming by a storage system owner (N) logical volume groups, assigning one or more of the plurality of logical volumes to the (i)th logical volume group, where (i) is greater than or equal to 1 and less than or equal to (N), where any logical volumes not assigned to any of the (N) logical volume groups remain unassigned, as recited by Applicants' claims 1, 11, and 21, as amended herein.

The Examiner posits that Fuller et al. "assign logical volumes to logical volume groups corresponding to a customer . . ." April 17, 2008 Office Action at Paragraph 4 / Page 4.

Applicants respectfully disagree. Fuller et al. nowhere recites or teaches forming logical volume groups. Fuller expressly teaches:

Storage device 170 comprises a large volume of available storage space. Device ports 175 facilitate the transfer of data into and out of storage device 170. Device configuration mechanism 179 partitions the large storage space of storage device 170 into a plurality of logical storage areas, or (LUNs) 177. Device configuration mechanism 179, under control of management server 180, assigns at least one LUN 177 to each server of customers 110 and 120 (shown by dashed lines A), and when customers 110 and 120 request access to storage device 170, device configuration mechanism 179 executes authentication and authorization processes before access is granted.

Paragraph [0032].

Fuller et al. nowhere teaches forming (N) host computer groups, or forming (N) logical volume groups, wherein each of the plurality of host computers assigned to an (i)th host computer group is not assigned to any other of the (N) host computer groups, and wherein each of the logical volumes assigned to an (i)th logical volume group is not assigned to any other of the (N) logical volume groups, as recited by Applicants' claims 1, 11, and 21, as amended herein.

Moreover, Applicants respectfully submit that Fuller et al. teach away from Applicants' claims 1, 11, and 21, as amended herein. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *see KSR*, 127 S. Ct. at 1739-40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious).

Fuller et al. in FIGs. 1 and 2 teach a data storage and retrieval system (element 170) in communication with four computing devices 110 owned by Customer A, and five computing devices 120 owned by Customer B. In FIG. 3 Fuller et al. teach a data storage and retrieval system in communication with one computing device 310 owned by Customer A and two computing devices 320 owned by Customer B. One of ordinary skill in the art following the teachings of Fuller et al. would configure a data storage and retrieval system in communication with a plurality of host computers each owned by a single owner.

In marked contrast, Applicants' claims 1, 11, and 21, as amended herein, recite a data storage and retrieval system in communication with plurality of host computers, wherein each

of the plurality of host computers are owned by different host computer owners. One of ordinary skill in the art following the teachings of Fuller et al. would find no motivation to configure a data storage and retrieval system in communication with plurality of host computers, wherein each of the plurality of host computers are owned by different host computer owners., as recited in Applicants' claims 1, 11, and 21.

In *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007), the Supreme Court held that the obviousness analysis of *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), controls an obviousness inquiry. The *Graham* obviousness factors include “the scope and content of the prior art” and the “differences between the prior art and the claims”. *KSR*, 127 S. Ct. at 1734 (quoting *Graham*, 383 U.S. at 17-18).

In view of the differences between the prior art and Applicants' claims, as amended herein, and further in view of the teaching away of the prior art, Applicants respectfully submit that claims 1, 11, and 21, as amended herein are patentable over the combined teachings of Shinohara et al., Fuller et al., and Burton et al.

Claims 2-10, as amended herein, depend, directly or indirectly, from claim 1, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 2-10, as amended herein are patentable over the combined teachings of Shinohara et al., Fuller et al., and Burton et al.

Claims 12-20, as amended herein, depend, directly or indirectly, from claim 11, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 12-20, as amended herein are patentable over the combined teachings of Shinohara et al., Fuller et al., and Burton et al.

Claims 22-26, as amended herein, depend, directly or indirectly, from claim 21, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 22-26, as amended herein are patentable over the combined teachings of Shinohara et al., Fuller et al., and Burton et al.

Having dealt with all of the outstanding objections and/or rejections of the claims, Applicants submit that the application as amended is in condition for allowance, and an allowance at an early date is respectfully solicited. In the event there are any fee deficiencies or additional fees are payable, please charge them, or credit an overpayment, to our Deposit Account No. 170055.

Respectfully submitted,

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